In the Specification

Amend the paragraph on page 18, line 15, and the following paragraph as follows:

Specifically, the system may be used to overcome limitations, such as photon pileup, which is commonly encountered with the use of photon counting (PC) and photon energy discriminating ~~detectors~~ (ED) CT detectors as opposed to traditional photon energy integrating CT detectors. Photon counting CT systems include detector systems that are capable of distinguishing between photons such that a photon is differentiated from another photon and counted as it is received by the detector. Energy discriminating CT systems are capable of tagging each photon count with its associated energy level. As will be described in detail below, the present invention provides a means to determine an imaging subject's size, shape, and centering and to use this information to provide centering information for automatically re-center patient elevation. Accordingly, as shown in Fig. 10, x-ray flux management may be controlled to maintain a flux profile 250, 254 that is below a max flux limit 252 of a specific detector and its respective flux limits. For example, the flux profile 250, 254 may be specifically controlled to satisfy the requirements of ED or PC CT detectors so as to avoid photon pileup.

Amend the paragraph on page 27, line 1, and the following paragraph as follows:

Referring to Figs. 18, 19, and 20, surface elevation information about the patient can be obtained by various methods. If the patient 706 is resting directly on the patient table 708, as in Fig. 18, the table elevation can be used to determine y-axis centering error. Specifically, with respect to Fig. 18, the table height [[708]] is known and, as such, the upper horizontal axis 710 of the patient 706 is known or reasonably estimated. Therefore, once the vertical axis 712 is determined, as described above, the upper center 714 of the patient 706 can be determined from the intersection of the upper horizontal axis 710 of the patient 706 and the vertical axis 712. Accordingly, the center 716 of the patient 706 is disposed halfway between the upper center 714 and the table height[[708]]. Given the determination of these values, table elevation relative to isocenter (E) can be calculated by solving for the equation ~~E = R + H - C~~ E = C – R – H, wherein H is the height of the table [[714]] 708, R is the difference between the center 716 of the patient 706 and the table height[[708]], and C is the height of the upper center 714 of the patient 706. Specifically, mis-centering is determined by measuring the offset of the contour projections from isocenter.

However, in cases where the patient 706 is propped up, as in Fig. 19, with pillows or other positioning devices 718, the centering can be determined from a laser or sonic displacement measuring device 720 positioned on the gantry or otherwise disposed on the scanner to locate the top surface of the patient 706. As such, a vector of position information is collected and associated with each scout projection to allow the centering error to be calculated as a function of the z-direction. Specifically, since the center 716 of the patient 706 cannot readily be readily discerned because it is not disposed halfway between the upper center 714 and the table height[[708]] due to the offset created by the positioning device 718, as shown in Fig. 18, a laser or sonic displacement sensor 720 may be utilized to determine a distance L to the upper horizontal axis 710 of the patient 706. As such, E can be calculated in this case according to: ~~E = C – R – L~~ E = R + L – C.